5751

PREMIUM TYPE 5751

# HIGH-MU TWIN TRIODE

9-PIN MINIATURE TYPE

*Intended for applications where dependable performance under shock and vibration is paramount*

## GENERAL DATA

**Electrical:**

Heater, for Unipotential Cathodes:

| Heater Arrangement | *Series* | *Parallel* | |
|---|---|---|---|
| Voltage (AC or DC) . . . . | 12.6 ± 10% | 6.3 ± 10% | volts |
| Current . . . . . . . . . . | 0.175 | 0.35 | amp |

**Characteristics, Class $A_1$ Amplifier:**

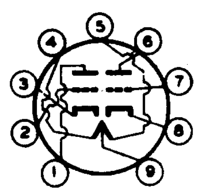
| | | | |
|---|---|---|---|
| Plate Voltage . . . . . . . . . . | 100 | 250 | volts |
| Grid Voltage . . . . . . . . . . . | -1 | -3 | volts |
| Amplification Factor . . . . . . | 70 | 70 | |
| Plate Resistance . . . . . . . . . | 58000 | 58000 | ohms |
| Transconductance . . . . . . . . . | 1200 | 1200 | μmhos |
| Plate Current . . . . . . . . . . | 0.9 | 1.0 | ma |

**Mechanical:**

| | |
|---|---|
| Mounting Position . . . . . . . . . . . . . . . . . . . . . . | Any |
| Maximum Overall Length . . . . . . . . . . . . . . . . . . | 2-3/16" |
| Maximum Seated Length . . . . . . . . . . . . . . . . . . | 1-15/16" |
| Length, Base Seat to Bulb Top (Excluding tip) . | 1-9/16" ±3/32" |
| Maximum Diameter . . . . . . . . . . . . . . . . . . . . . | 7/8" |
| Bulb . . . . . . . . . . . . . . . . . . . . . . . . . . . . . | T-6-1/2 |
| Base . . . . . . . | Small-Button Noval 9-Pin (JETEC No.E9-1) |

BOTTOM VIEW

Pin 1 - Plate of Unit No.2
Pin 2 - Grid of Unit No.2
Pin 3 - Cathode of Unit No.2
Pin 4 - Heater
Pin 5 - Heater




Pin 6 - Plate of Unit No.1
Pin 7 - Grid of Unit No.1
Pin 8 - Cathode of Unit No.1
Pin 9 - Heater Mid-Tap

## AMPLIFIER - Class $A_1$

*Values are for each unit*

**Maximum Ratings,** *Absolute Values:*

| | | |
|---|---|---|
| PLATE VOLTAGE . . . . . . . . . . . . . . . . | 330 max. | volts |
| GRID VOLTAGE: | | |
| Negative bias value . . . . . . . . . . . | 55 max. | volts |
| Positive bias value . . . . . . . . . . . | 0 max. | volts |
| PLATE DISSIPATION . . . . . . . . . . . . . | 0.8 max. | watt |
| PEAK HEATER-CATHODE VOLTAGE: | | |
| Heater negative with respect to cathode | 100 max. | volts |
| Heater positive with respect to cathode | 100 max. | volts |
| BULB TEMPERATURE (At hottest point on bulb surface) . . . . . . . | 165 max. | °C |

5751

# 5751

# HIGH-MU TWIN TRIODE

## CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN*

| | Note | Min. | Max. | |
|---|---|---|---|---|
| Heater Current . . . . . . . . | 1 | 0.160 | 0.190 | amp |
| Amplification Factor . . . . . | 1,2 | 55 | 85 | |
| Plate Current . . . . . . . . | 1,2 | 0.4 | 1.8 | ma |
| Plate Current . . . . . . . . | 1,3 | – | 10.5 | μamp |
| Transconductance . . . . . . . | 1,2 | 900 | 1600 | μmhos |
| Reverse Grid Current . . . . . | 1,4 | – | 0.4 | μamp |
| Heater-Cathode Leakage Current: | | | | |
| Heater negative with respect to cathode . . . . . . . | 1,5 | – | 10 | μamp |
| Heater positive with respect to cathode . . . . . . . | 1,5 | – | 10 | μamp |
| Leakage Resistance: | | | | |
| Between Grid and All Other Electrodes Tied Together | 1,6 | 500 | – | megohms |
| Between Plate and All Other Electrodes Tied Together | 1,7 | 500 | – | megohms |

* Each tube is stabilized before characteristics testing by continuous operation for at least 45 hours at room temperature and with dissipation values equivalent to life test conditions.

Note 1: With 12.6 volts ac or dc on heater (series connected).

Note 2: With dc plate voltage of 250 volts and dc grid voltage of −3 volts. Each unit is tested separately. Electrodes of unit not under test are grounded.

Note 3: With dc plate voltage of 250 volts, plate load resistance of 0.1 megohm, and dc grid voltage of −10.5 volts. Each unit is tested separately. Electrodes of unit not under test are grounded.

Note 4: With dc plate voltage of 250 volts, grid resistor of 1.0 megohm, and dc grid voltage of −3 volts. Each unit is tested separately. Electrodes of unit not under test are grounded.

Note 5: With 100 volts dc between heater and cathode, and units connected in parallel.

Note 6: With grid 100 volts negative with respect to all other electrodes tied together.

Note 7: With plate 300 volts negative with respect to all other electrodes tied together.

## SPECIAL RATINGS & PERFORMANCE DATA

**Shock Rating:**

Impact Acceleration . . . . . . . . . . . . 600 max. g

Tubes are held rigid in three different positions in a Navy Type, High Impact (flyweight) Shock Machine and are subjected to 600 g impact acceleration.

**Fatigue Rating:**

Vibrational Acceleration . . . . . . . . . 2.5 max. g

Tubes are rigidly mounted and subjected in each of three positions to 2.5 g vibrational acceleration at 25 cycles per second for 32 hours.

5751

# HIGH-MU TWIN TRIODE

**Low-Frequency Vibration Performance:**

RMS Output Voltage . . . . . . . . . . . . . 100 max. mv

Under the following conditions and with units connected in parallel; heater voltage of 12.6 volts (series connected), dc plate voltage of 250 volts, dc grid voltage of -3 volts, plate load resistance of 2000 ohms, and vibrational acceleration of 2.5 g at 25 cycles per second.

**Heater-Cycling Life Performance:**

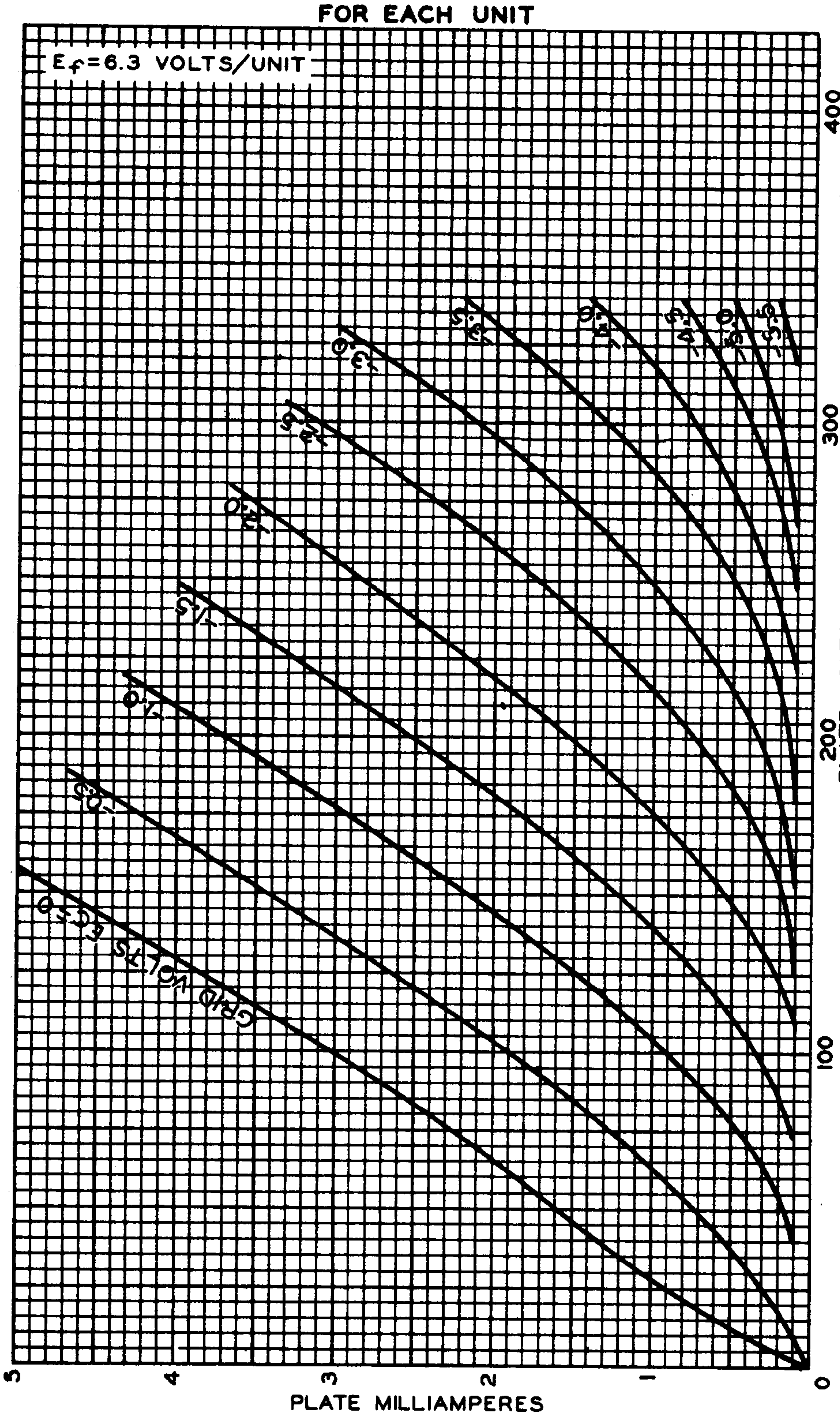
Cycles of Intermittent Operation . . . . . 2000 min. cycles

Under the following conditions and with parallel heater arrangement: heater voltage of 7.5 volts cycled one minute on and one minute off, heater 100 volts positive with respect to cathode, and plate and grid voltage = 0 volts.

5751

![RCA]

# 5751
## AVERAGE PLATE CHARACTERISTICS
### FOR EACH UNIT



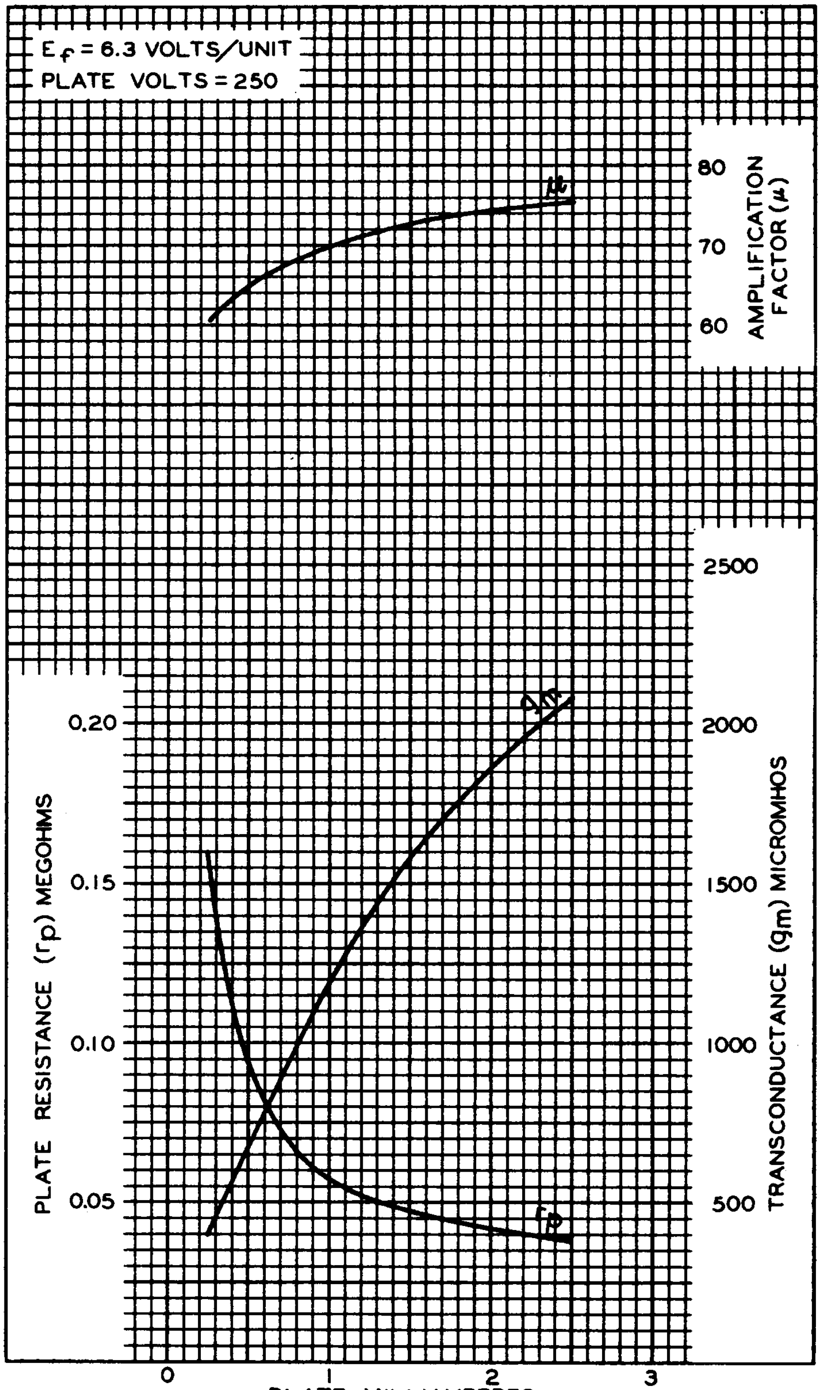

MAR.13,1953

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7948

5751

# 5751
## AVERAGE CHARACTERISTICS
### FOR EACH UNIT




MAR. 12, 1953

TUBE DEPARTMENT
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-7947